



UC San Diego

Jacobs School of Engineering
CORPORATE AFFILIATES PROGRAM

Welcome

CAP Executive Board

Thursday, October 11, 2018

CAP Chairman



Nik Devereaux

Director of Software Engineering, Viasat

Welcome

UC San Diego

JACOBS SCHOOL OF ENGINEERING
Corporate Affiliates Program

Welcome New CAP Partners



TESC

Triton Engineering Student Council

About Us

- Umbrella organization for 40+ engineering student orgs
- Represents all 9000+ undergraduates at the Jacobs School
- Largest operating cost compared to any other student org on campus, with all proceeds going back into council orgs



Caitlyn Liu
VP External
caitlyn@tesc.ucsd.edu



David Ding
SD Hacks 2018 Director
Sponsorship Lead
david@tesc.ucsd.edu



Colin Feeney
TESC President
colin@tesc.ucsd.edu

Contact us for any partnership inquiries

TESC

Triton Engineering Student Council

Signature Events

SD Hacks – October 12-14, 2018

- San Diego's largest student hack-a-thon
- Over 1,000 students
- Recruit students in action



DECaF – January 17, 2019

- Only career fair exclusively for engineers
- 2,000+ students across 6 departments
- 60+ companies, including many CAP Partners



Student TIP Presentations



UC San Diego

JACOBS SCHOOL OF ENGINEERING

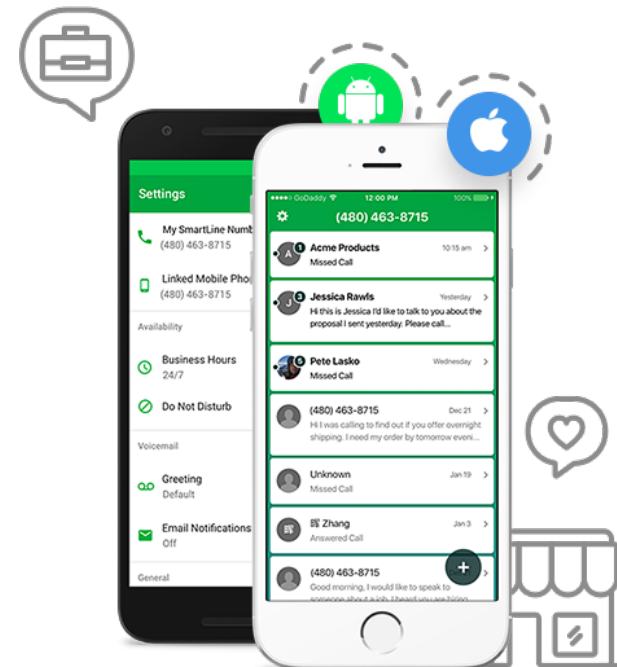
Corporate Affiliates Program



SmartReply for SmartLine

Will Chen, MS, Electrical Engineering
Siddharth Dinesh, MS, Computer Science

October 11, 2018





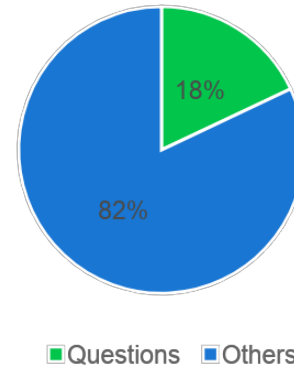
Motivation

Why did we build what we built?

Motivation (continued)

- SmartLine app, designed for business owners, provides a second phone number for users to contact their customers
- 50% of app events are texts
- 18% of texts are questions
- Users need to answer **repetitive** questions
 - "What time do you open?"
 - "What's your address?"
- Time-consuming and inconvenient
- **Need a response suggestion feature**
- **Typing an entire response → two clicks**

Incoming Messages





Business Hours Related Questions

How do we form responses to incoming messages related to business hours?

Business Hours Related Questions

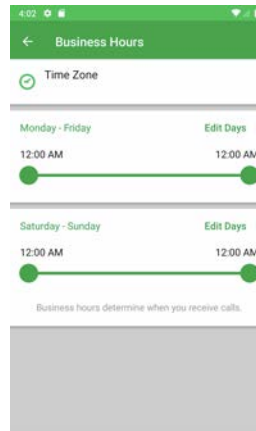
Classify various intents for business related questions

- Hours, location, appointments, etc.
- Give responses tailored for these types of questions

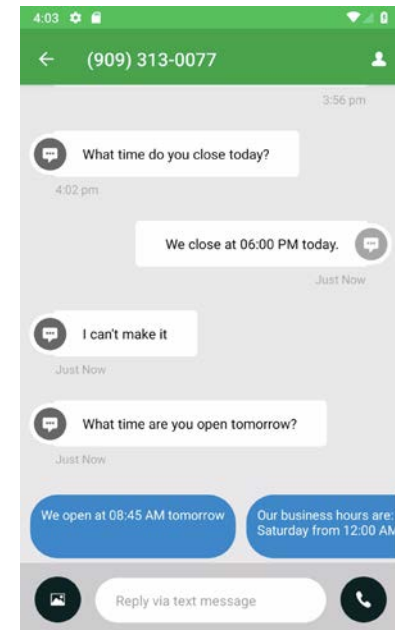


Get information of business hours users set on their phones

- Readily available information
- Existing SmartLine feature



Form responses using the information



Business Hours Related Questions

Classifying Intents using AWS Lex

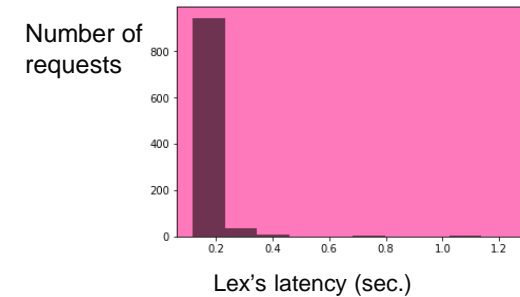
Business hours, location, appointments

Model Performance with AWS Lex

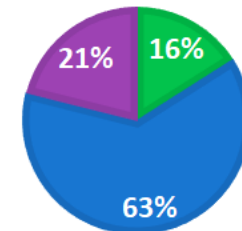
Augmenting Responses with Stanford Language Parser

Detect yes-no questions

Evaluation of
Lex's Latency



Filtered Correct Incorrect



Intent Classifying
Performance of AWS Lex

Business Hours Related Questions

Response Examples

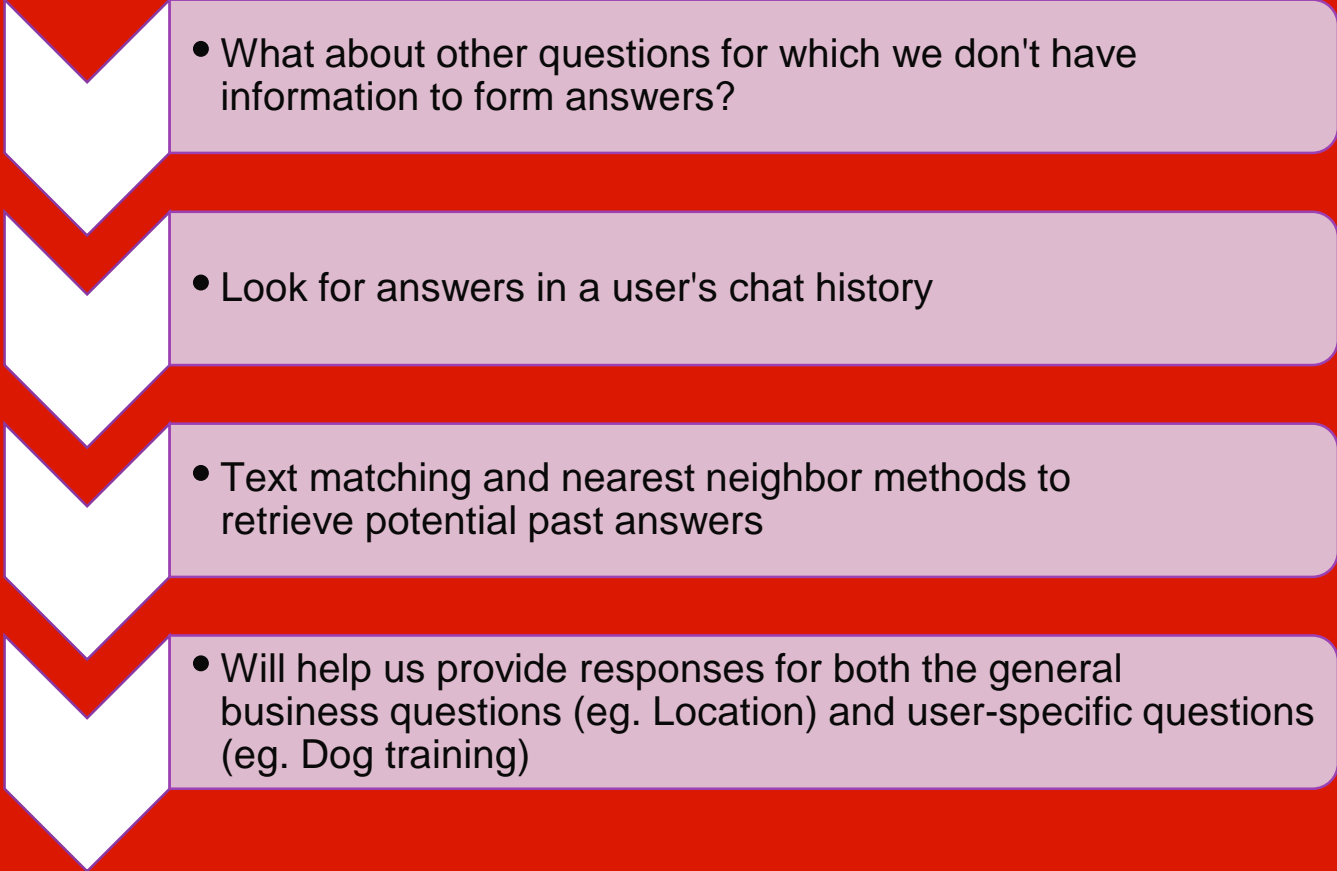
Incoming Message	Suggested Responses
<ul style="list-style-type: none">"What time do you open in the morning?"	<ul style="list-style-type: none">"Our hours tomorrow are 09:00 AM - 05:00 PM""We open at 09:00 AM tomorrow""Our business hours are: Weekdays from 09:00 AM to 05:00 PM, Weekends from 09:00 AM to 01:00 PM"
<ul style="list-style-type: none">Are you open Saturday?	<ul style="list-style-type: none">"Yes, we are open on Saturday""Our hours on Saturday are 09:00 AM – 01:00 PM""We open at 09:00 AM on Saturday""Our business hours are: Weekdays from 09:00 AM to 05:00 PM, Weekends from 09:00 AM to 01:00 PM""Sorry, we are closed Saturday"



Personalized Response Retrieval

What about questions that are not related to business hours?

Personalized Response Retrieval

- 
- What about other questions for which we don't have information to form answers?

- Look for answers in a user's chat history

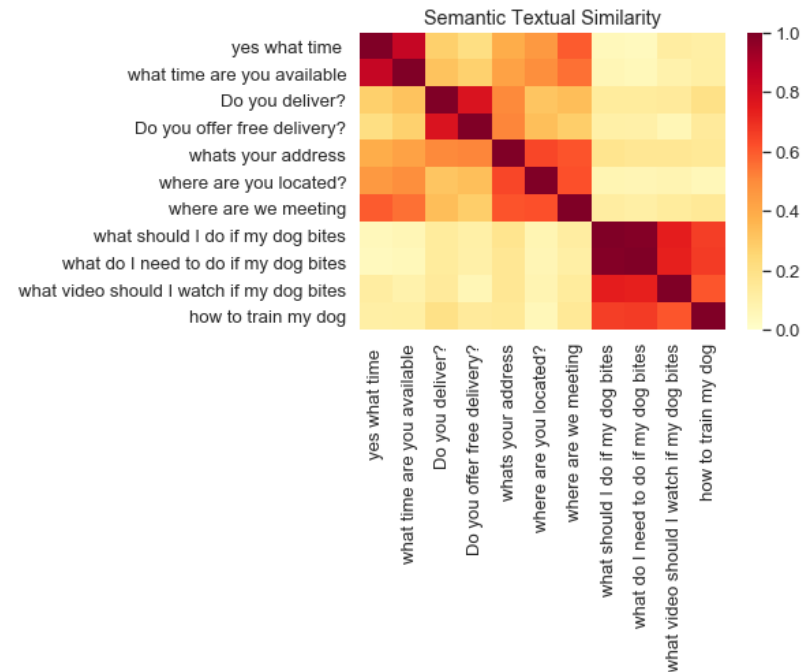
- Text matching and nearest neighbor methods to retrieve potential past answers

- Will help us provide responses for both the general business questions (eg. Location) and user-specific questions (eg. Dog training)

Personalized Response Retrieval

Going from Data to Predictions

- Message Embeddings
 - Convert a message to a sequence of numbers
 - Preserve the semantic meaning
- Finding Nearest Neighbors
 - Similar embeddings have similar meanings
 - Retrieve the corresponding outgoing messages



Google's Sentence Encoder: <https://www.tensorflow.org/hub/modules/google/universal-sentence-encoder-large/3>

Spotify's Annoy: <https://github.com/spotify/annoy>

Personalized Response Retrieval

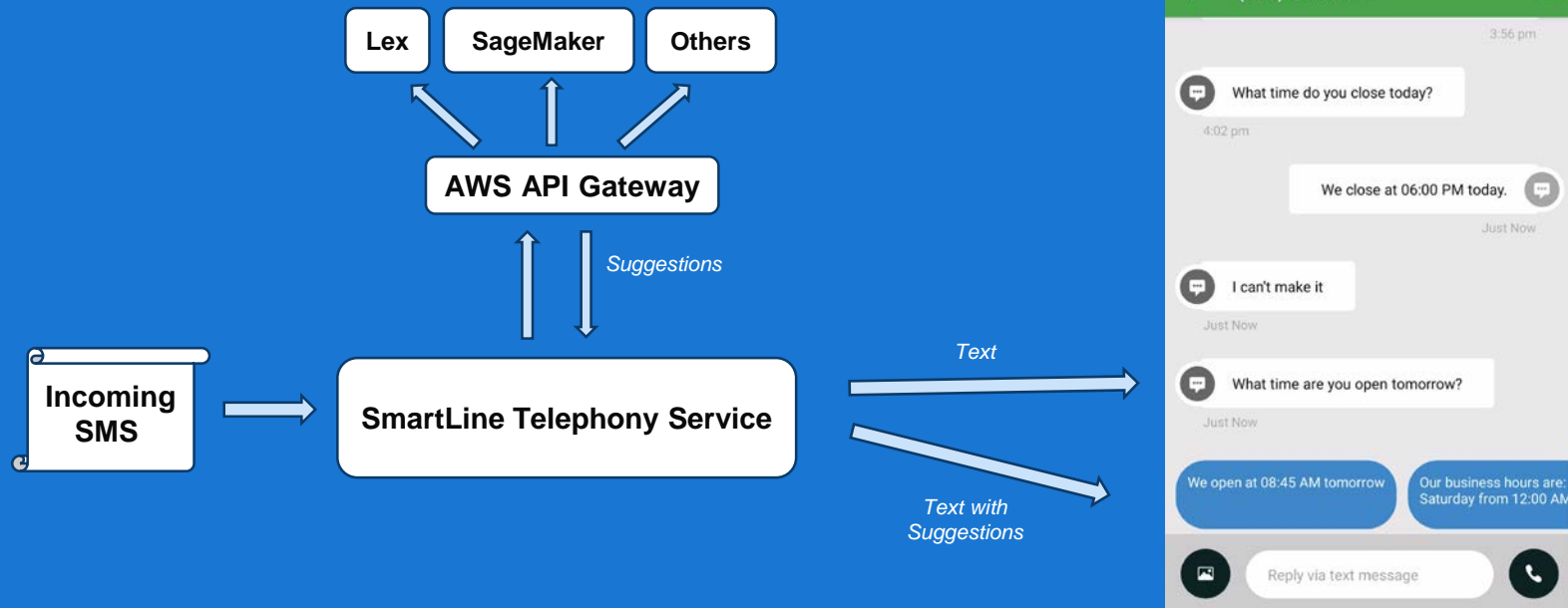
Incoming Message	Similar Past Incoming Messages	Retrieved Responses
<ul style="list-style-type: none">• "Where is your business located?"	<ul style="list-style-type: none">• "Where is your warehouse located?"• "Where is your store located?"• "Where is your store located "	<ul style="list-style-type: none">• "Off of Reno and Council Rd"• "In OKC off of Reno and Council."• "Off of W. Reno and Council Rd. "
<ul style="list-style-type: none">• "what should I do if my dog bites?"	<ul style="list-style-type: none">• N.A.	<ul style="list-style-type: none">• N.A.



System Architecture

How do we build a platform to support these solutions?

System Architecture



Thank you!

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Team Internship Program





UTC Aerospace Systems

Variable Supersonic Inlet TIP

Final Presentation

Bryn Henning, Guinevere Keller, Graham Martin, Jonathan Rodriguez

9/5/18

Introductions

Bryn Henning

- Fourth year mechanical engineer
- Three-time board member for UCSD SWE

Guinevere Keller

- Fourth year mechanical engineer
- Designs rocket engines in UCSD SEDS

Graham Martin

- Fourth year structural engineer
- Throws Javelin for UCSD Track and Field

Jonathan Rodriguez

- Fourth year aerospace engineer
- Builds AUV's for UCSD Yonder Deep



Background



Deciding Between Models

Concorde

- Commercial Airliner
- Mach 2.2
- 2D Duct



SR-71

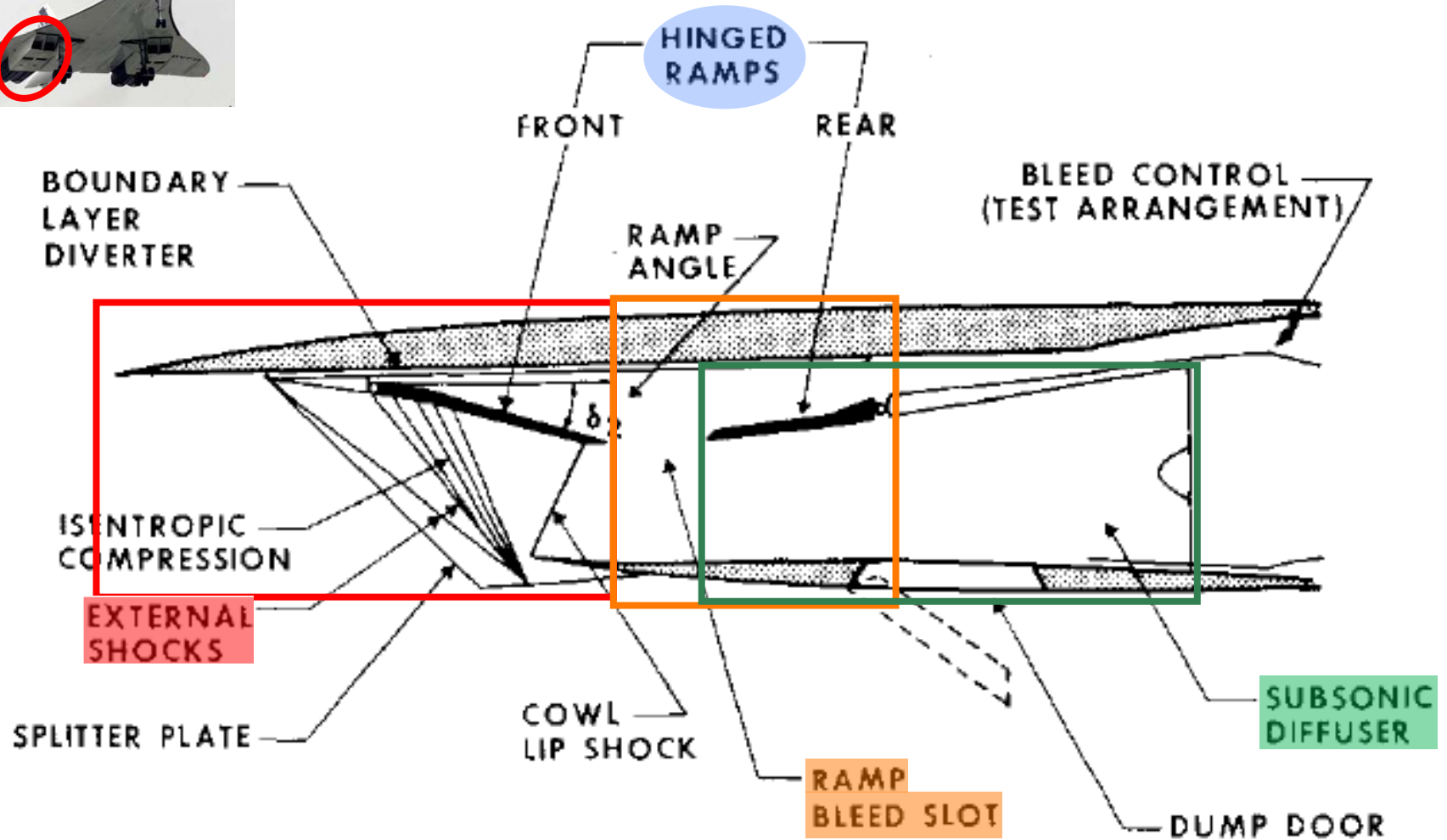
- Military Aircraft
- Mach 3+
- Axisymmetric



Concorde design was selected

Generating Aerolines

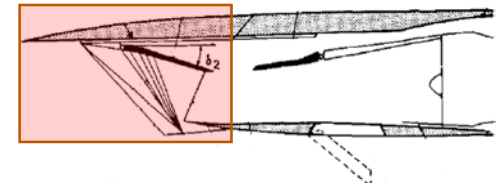




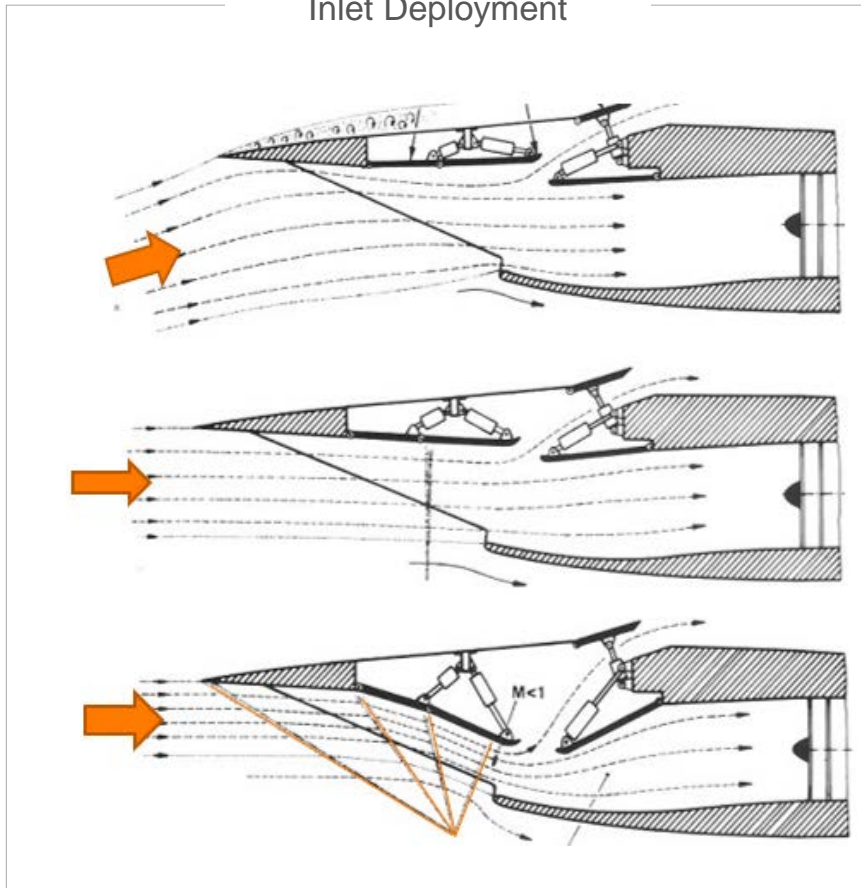
The inlet can be divided into three main sections.



External Diffuser



Inlet Deployment



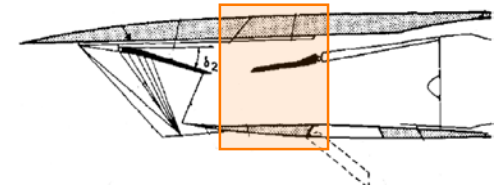
Inlet Efficiency



Inlets with more ramps have higher fan efficiency

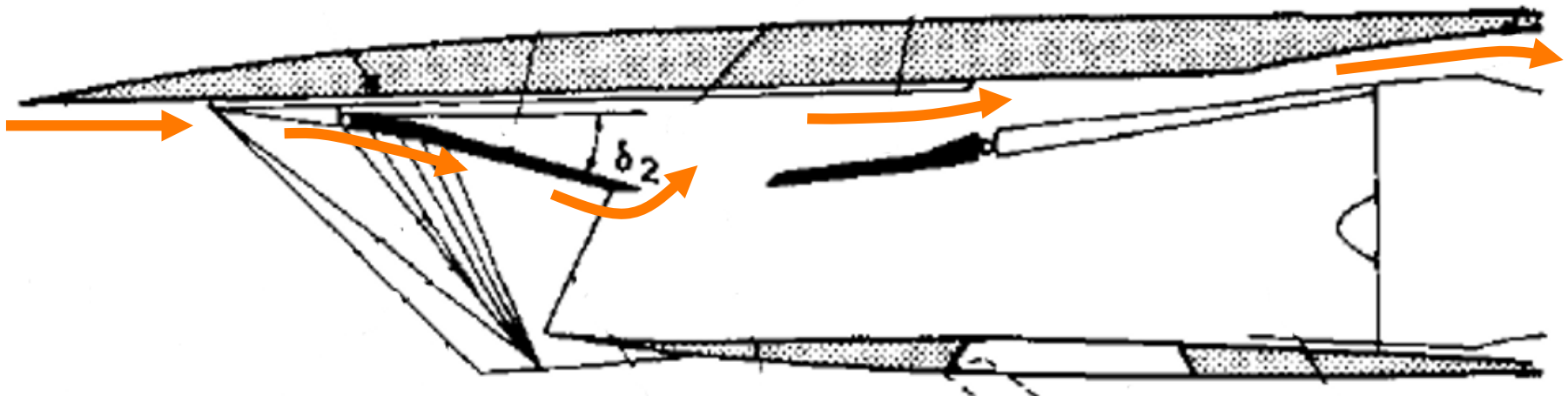


Bleed



Boundary Layer and Bleed

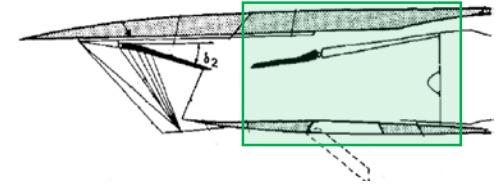
- Low-momentum boundary layer develops along ramps
- Flow must be “bled” to maximize stability
- Bleed bypasses fan



Modeling the boundary layer is critical to achieving fan stability

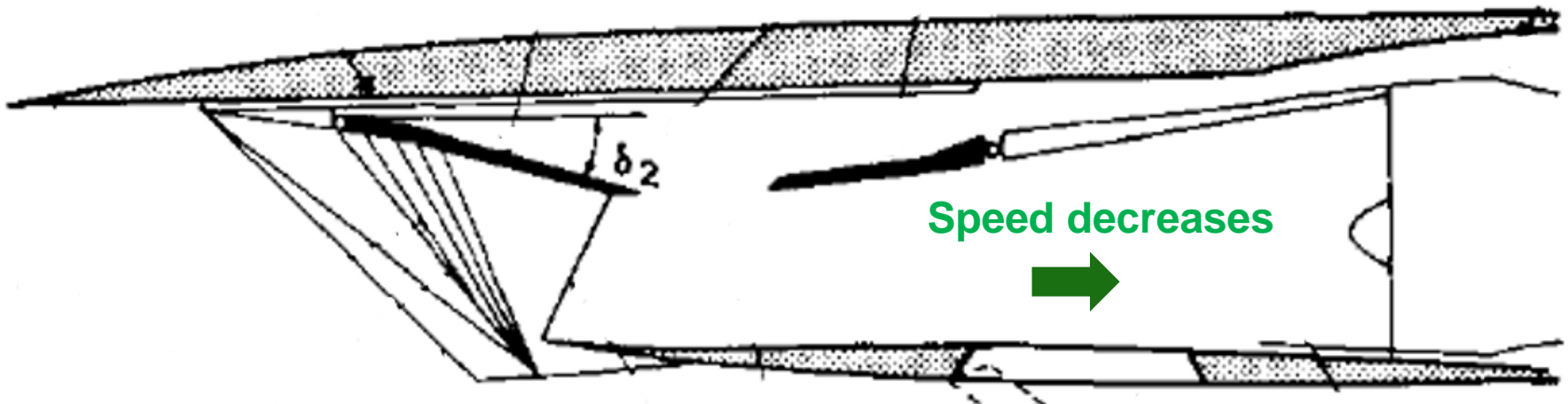


Subsonic Diffuser



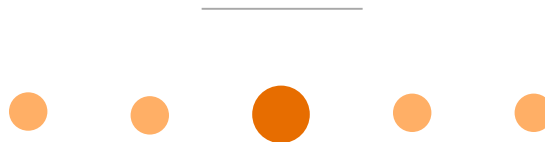
Finding Flow Properties

- Compiled equations into a versatile MATLAB code
- Calculated the fan to throat area ratio
- Determined pressure on the bleed ramp



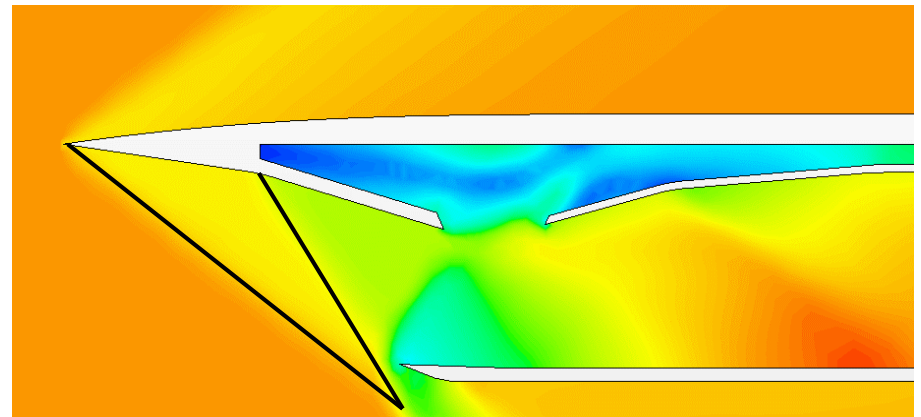
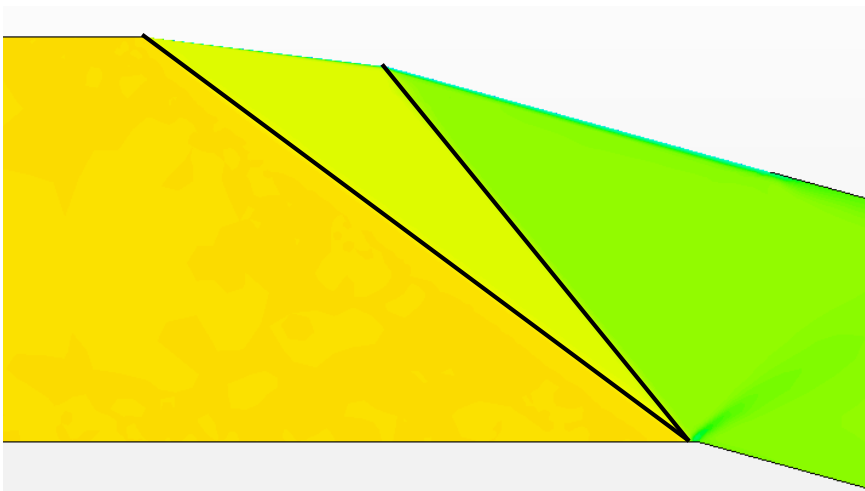
Diffuser sizing is driven by incoming Mach number

Validating Aerolines



CFD Shock Wave Results

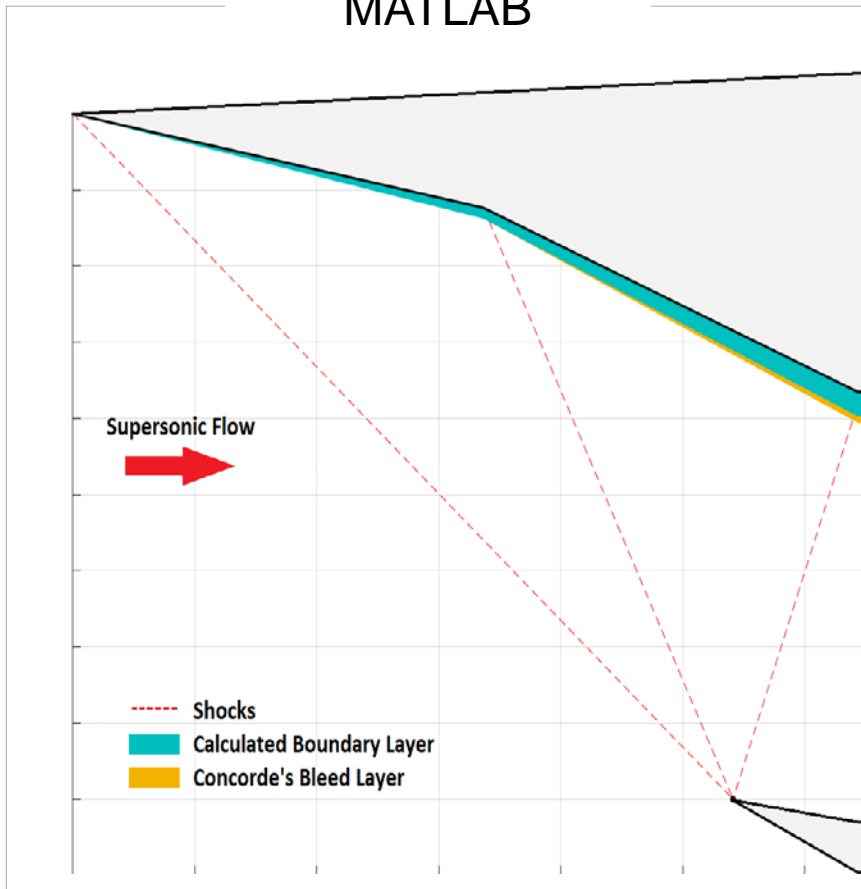
- MATLAB solutions are verified with CFD
- Oblique shocks form at ramps and coincide at focal point



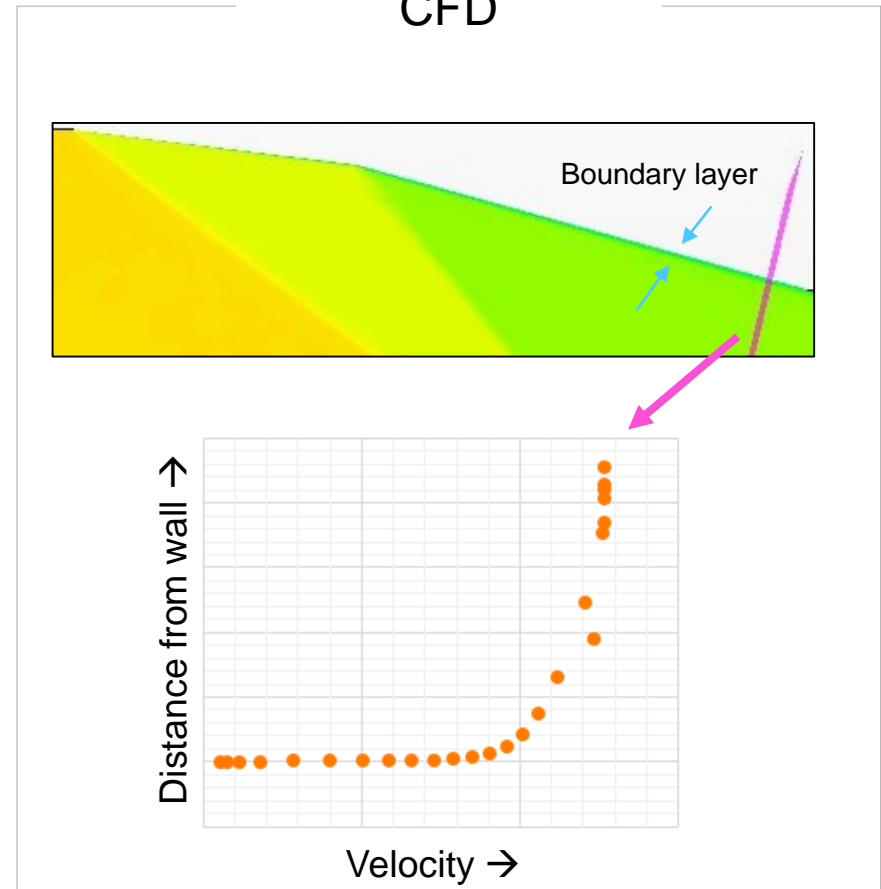
CFD validates that external diffuser successfully forms oblique shocks

CFD Boundary Layer Results

MATLAB



CFD



CFD & MATLAB validate the mass flow bleed

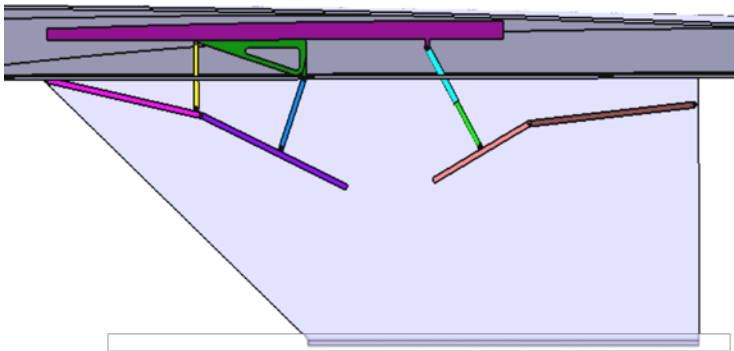
Mechanisms



Design Comparisons

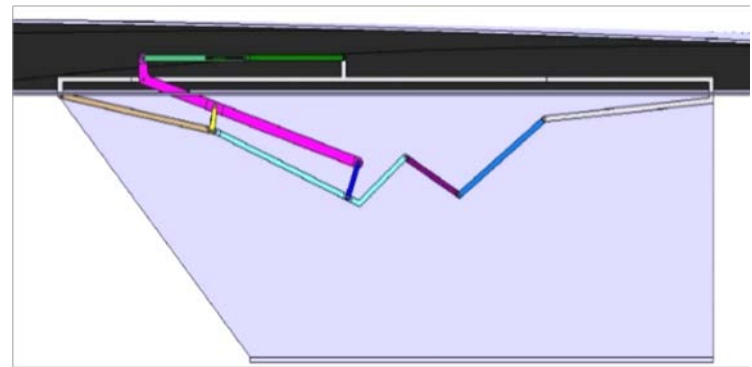
Shuttle System Design

- ✓ Less Complex
- ✓ More compact
- ✗ Less efficiency
- ✗ Two actuators required



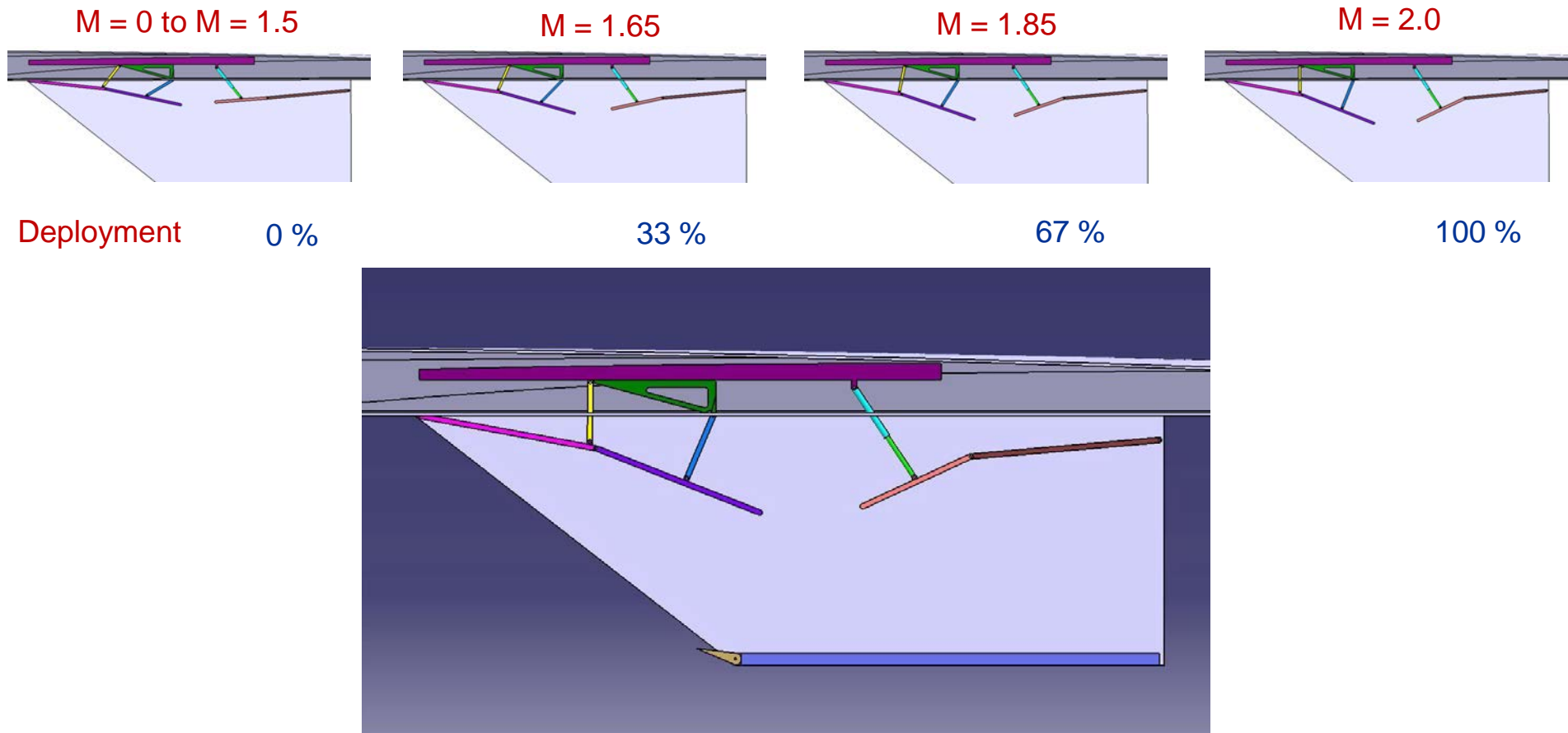
Lever System Design

- ✓ Single actuator
- ✓ Efficient off-design conditions
- ✗ Larger force
- ✗ Sustainability issues

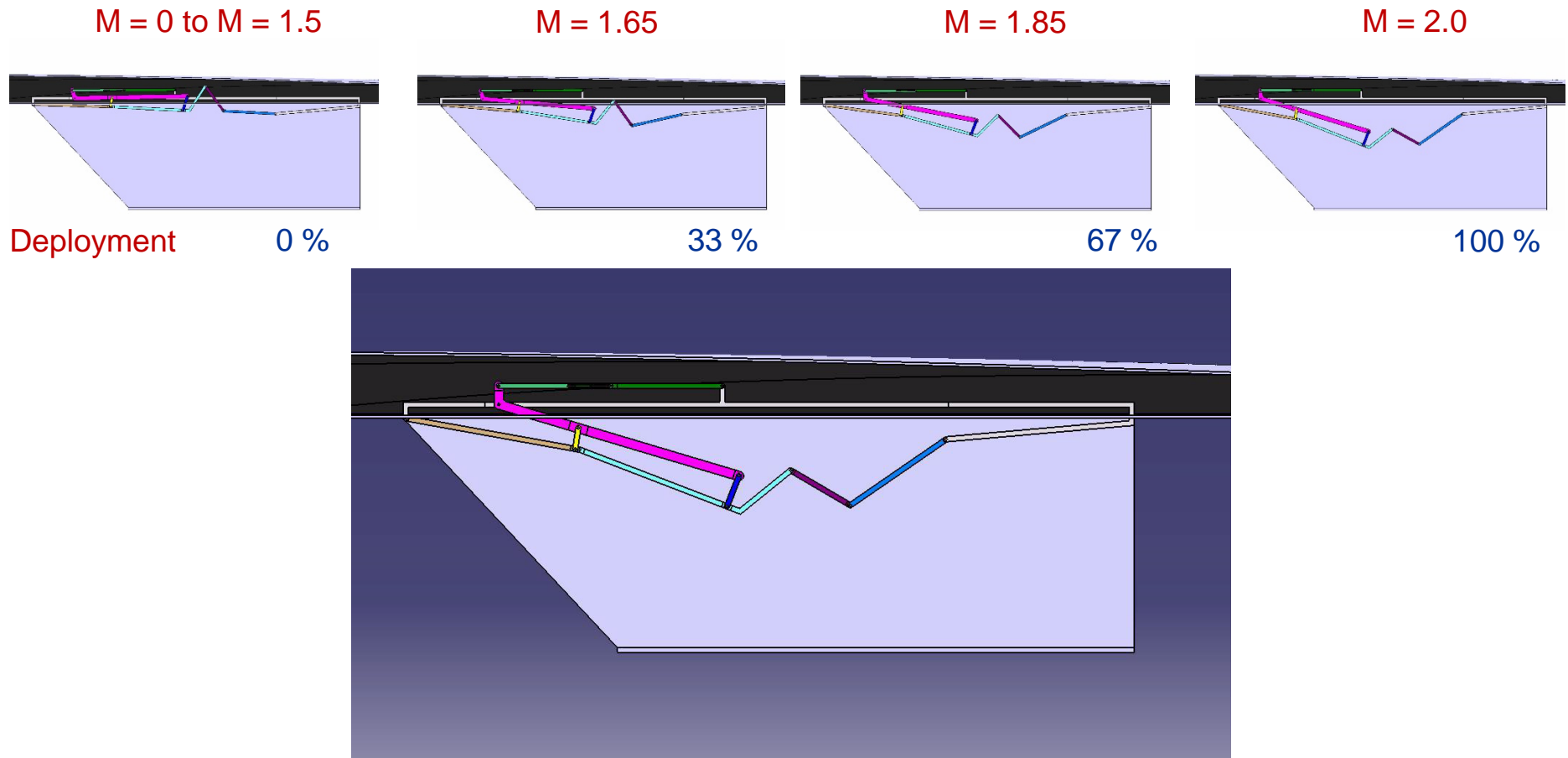


While each design has disadvantages, both are feasible and novel kinematic solutions

Shuttle System Deployment



Lever System Deployment

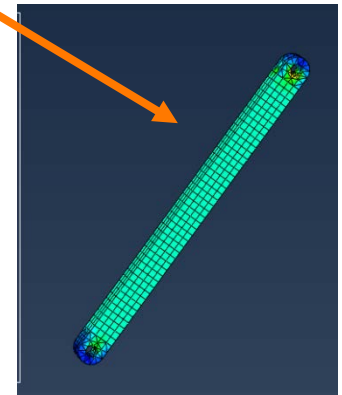
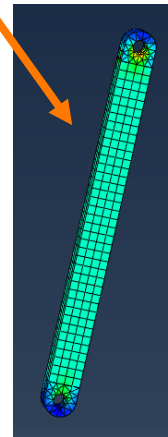
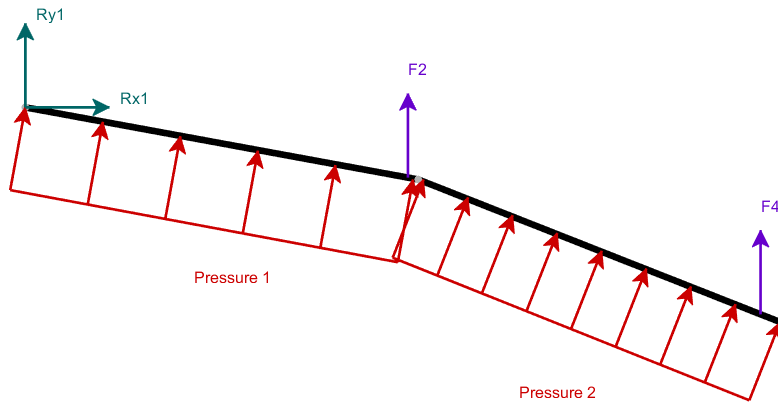
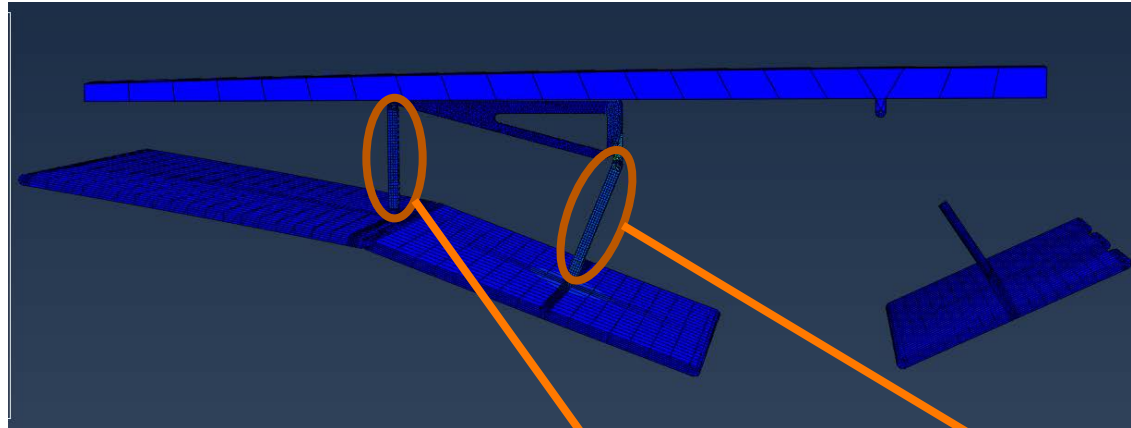


As the actuator retracts, the ramps are lowered via a long lever

Next Steps



Stress Analysis and Comparison



MATLAB code disagrees with ABAQUS solutions

Path to Product Introduction



The scope of the internship covered initial research and designs for a variable geometry inlet.

Thank You

UCSD TIP

Rocio de Lis & Erica Kosa

PROJECT LEADS

Steve Kestler & Christian Soria

MANAGMENT & CAREER GUIDANCE

Jeff Anderson

MECHANISM DESIGN

AJ Lacko, Johann Schrell, Peter Aziz, Michael Cochran, & Doris Stumps

TECHNICAL GUIDANCE

Ann Khidekel, Tim Gormley, Mike Aten, & Aaron Noel

SPECIAL THANKS

Teresa Kruckenberg, Dean Albert Pisano, & all those in attendance

DEAN'S BRIEF



Albert P. Pisano

Dean, Jacobs School of Engineering

Securing Excellence

UC San Diego

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Corporate Affiliates Program

Jacobs School Continues to Impress

Raising up the rankings

#12 Best Engineering School

#7 Best Public Engineering School

2,722 Degrees Conferred in 2018

#3 Overall baccalaureate degrees conferred

#2 Female baccalaureate degrees conferred

8,944 Students Enrolled Fall 2018

#1 largest public engineering school on west coast

25% female (national average 17.5%)

\$178.9M in Research Expenditures

#1 Public Institution, \$850K+ per faculty member



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Corporate Affiliates Program

90 NEW FACULTY IN 5 YEARS

19
2014

17
2015

13
2016

26
2017

15
2018

15 Faculty Join the Jacobs School in 2018



JINHYE BAE
NANOENGINEERING

EXPERTISE:
Soft materials, polymer science, materials characterization
MOST RECENTLY:
Postdoctoral Research Associate, Harvard University



MAZIAR GHAZINEJAD
MECHANICAL & AEROSPACE ENGINEERING

EXPERTISE:
Engineering design, MEMS/NEMS
MOST RECENTLY:
Postdoctoral Researcher, University of Pennsylvania



TAYLOR BERG-KIRKPATRICK
COMPUTER SCIENCE & ENGINEERING

EXPERTISE:
Machine learning, data science
MOST RECENTLY:
Assistant Professor, Carnegie Mellon University



JUSTIN ELDRIDGE
COMPUTER SCIENCE & ENGINEERING

EXPERTISE:
Machine learning, data science
MOST RECENTLY:
Presidential fellow, The Ohio State University



TZU-CHIEN HSUEH
ELECTRICAL & COMPUTER ENGINEERING

EXPERTISE:
IC for comms systems, data centers and networks
MOST RECENTLY:
Senior Research Scientist, Intel Corporation



JOHN T. HWANG
MECHANICAL & AEROSPACE ENGINEERING

EXPERTISE:
Optimization algorithms and materials for aerospace
MOST RECENTLY:
Research engineer, NASA Glenn Research Center



AARON FRAENKEL
COMPUTER SCIENCE & ENGINEERING

EXPERTISE:
Machine learning
MOST RECENTLY:
Senior Scientist, Amazon



TANIA MORIMOTO
MECHANICAL & AEROSPACE ENGINEERING

EXPERTISE:
Soft robotics, surgical robotics, haptics
MOST RECENTLY:
Ph.D. student, Stanford



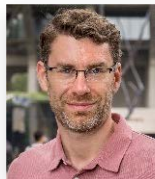
KENJI NOMURA
ELECTRICAL & COMPUTER ENGINEERING

EXPERTISE:
Oxide semiconductor materials, optoelectronics
MOST RECENTLY:
Principal Engineer, Obsidian Sensors, Inc.



JON POKORSKI
NANOENGINEERING

EXPERTISE:
Polymer chemistry, biomedical engineering
MOST RECENTLY:
Assistant Professor, Case Western Reserve University



OLIVER SCHMIDT
MECHANICAL & AEROSPACE ENGINEERING

EXPERTISE:
Computational flow physics
MOST RECENTLY:
Postdoctoral Scholar, California Institute of Technology



SHABNAM SEMNANI
STRUCTURAL ENGINEERING

EXPERTISE:
Characterization and modeling of geomaterials
MOST RECENTLY:
Ph.D. student, Stanford University



ABHISEK SAHA
MECHANICAL & AEROSPACE ENGINEERING

EXPERTISE:
Combustion, propulsion, power generation, materials
MOST RECENTLY:
Research Staff, Princeton University



NICOLE STEINMETZ
NANOENGINEERING

EXPERTISE:
Chemical biology, plant-virus based nanomaterials
MOST RECENTLY:
Professor, Case Western Reserve University



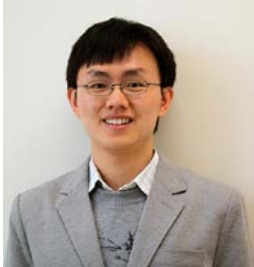
JOHN SANFORD
ELECTRICAL & COMPUTER ENGINEERING

EXPERTISE:
Next generation wireless communications systems
MOST RECENTLY:
Chief Technology Officer, Ubiquiti Networks

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Recent Faculty Awards



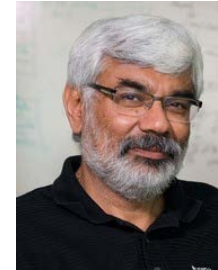
Sheng Xu
NanoEngineering
*MIT Technology Review
Top Innovators under 35*



Christine Alvarado
Computer Science & Engineering
*\$2M NSF Grant for Early
Research Scholars Program*



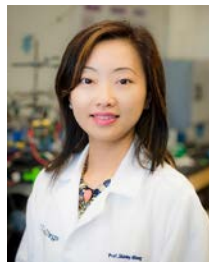
Hadi Esmaeilzadeh
Computer Science & Engineering
*2018 IEEE Young
Computer Architect*



Shankar Subramaniam
Bioengineering
*\$12M NIH Grant
Metabolomics Workbench*



Andrew Kahng
Electrical & Computer Engineering
*\$11.3M DARPA
OpenROAD Project*



Shirley Meng
NanoEngineering
*\$2.5M DoE Battery research for
advanced vehicle technologies*



Frank Talke
Mechanical & Aerospace Engineering
*2018 Galvanizing Engineering in
Medicine (GEM)*



Mike Tolley
Mechanical & Aerospace Engineering
*2018 Galvanizing Engineering in
Medicine (GEM)*

Agile Research Centers Foster Industry Collaboration



10 Centers Formed Over Past 3 Years

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Jacobs School Agile Research Centers

Wearable Sensors and Electronics



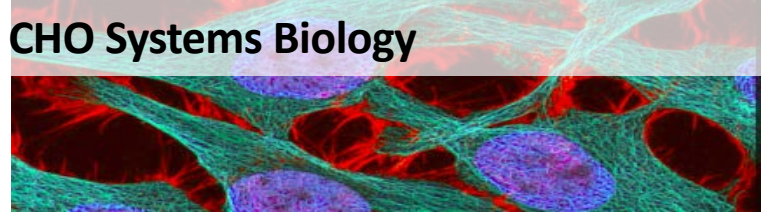
Sustainable Power and Energy



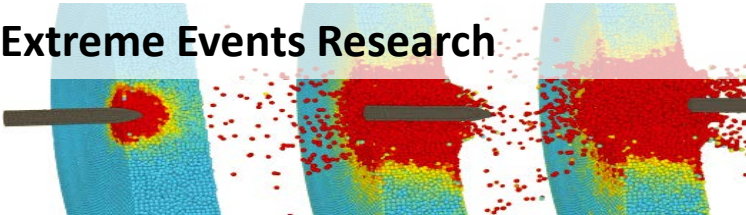
Visual Computing



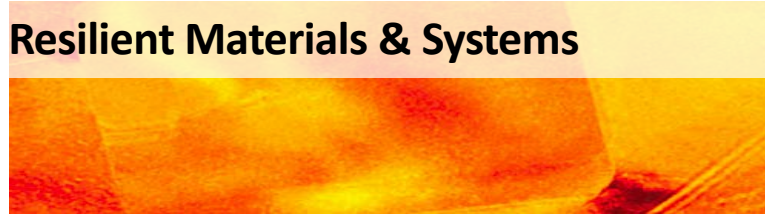
CHO Systems Biology



Extreme Events Research



Resilient Materials & Systems



Microbiome Innovation



Engineered Natural Intelligence



Deep Decarbonization



Machine Integrated Computing and Security



Franklin Antonio Hall

Opening 2021



- Collaboratories of the Digital Future
- Council on the Digital Future
- Prototyping and Design Facilities; Student Extracurricular Center
- Executive Education Center
- Meeting rooms: small (15), medium (50), and large (100) room capacity
- LEED Platinum
- 275 seat lecture hall

UC San Diego

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Corporate Affiliates Program

First Floor a Hub for Education, Innovation and Idea Exchange

- 250 seat auditorium with multiple classes per day
- Multi-purpose rooms for faculty-industry-grad student meetings
- Casual interaction spaces and cafe for “back of the napkin” discussions.
- Executive Outreach Center with meeting space available to Founders Circle Members
- Branding prominently displayed in the lobby for 1,000+ daily views by faculty, students, industry partners and alumni



FLOOR PLAN - LOWER LEVEL

Collaboratory Construct to Enable Accelerated Innovation Ecosystem

FLOOR PLAN - LEVEL 2 AND 3



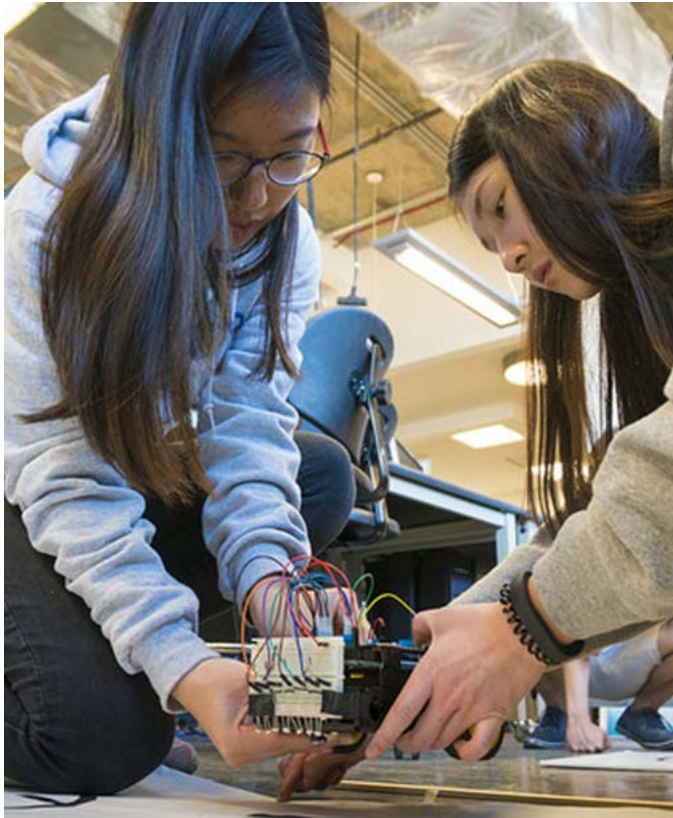
- Collaboratory population is 4-10 faculty and research teams (approximately 80 people in 10,000 square foot collaboratory)
- Maximize circulation of people and ideas between faculty, students and industry partners
- Permanent and Prominent branding at entrance to collaboratory conveys the message that you are partnering with UC San Diego's top faculty.

Franklin Antonio Hall Campaign

- \$180 million goal
- \$20 million to the finish line
- Seeking additional partners



Strategic Education Themes Surge Ahead



☐ Co-Op Pilot

☐ Systems Engineering

☐ 3/2 Master's Program

✓ Student Success Initiative

✓ Institute for the Global Entrepreneur

✓ Project Courses that Introduce and Reinforce Theory

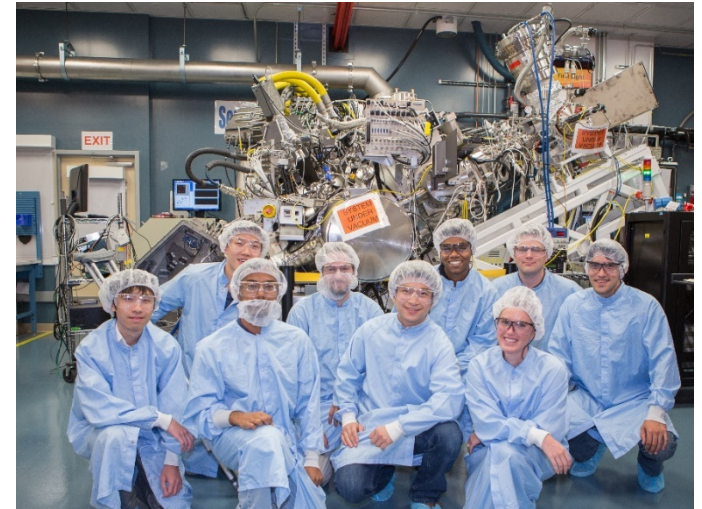
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Cooperative Education (Co-op) Pilot

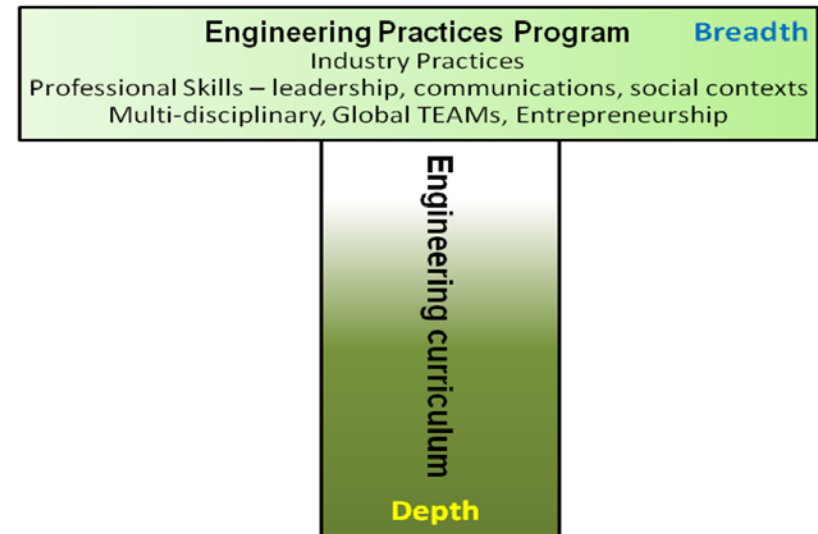
- On track for July-December 2019 Pilot
- Participating departments: CSE, ECE, MAE
- Targeted student cohort
- Pursuing campus approvals to minimize affect on time-to-degree, financial aid



Thank you to those companies that have confirmed participation,
finalizing partners December 1, 2018.

Systems Engineering of the 21st Century

- CAP Executives submitted case studies and educational outcomes
- Faculty committee reviewed, submitting white paper by end of 2018
- Significant update at Winter 2019 CAP Board Meeting
- Welcome additional representatives on CAP Systems Engineering Subcommittee



Thank you Subcommittee Members:

Adam Harris,
Amazon

An Chen,
Qualcomm

Claus Schulze,
OneWeb

GB Singh,
Solar Turbines

Joel Drake,
General Atomics

Karl Umstadter,
ASML

Larry Stullich,
Northrop
Grumman

Nick Freije,
SPAWAR

Nik Devereaux,
Viasat

Steve Auerbach,
Leidos

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Questions, Comments?

Faculty Presentation



Xinyu Zhang

Associate Professor, Electrical & Computer Engineering

Designing Intelligent Internet of Things

UC San Diego

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Designing Intelligent Internet of Things

Xinyu Zhang

Associate Professor

<http://xyzhang.ucsd.edu>

Department of Electrical and Computer Engineering

University of California San Diego



Evolution of the digital world

PC Era

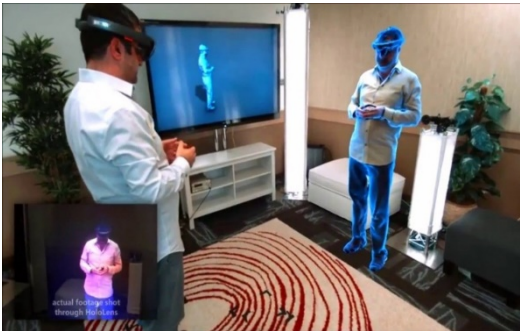
Mobile Era

IoT Era

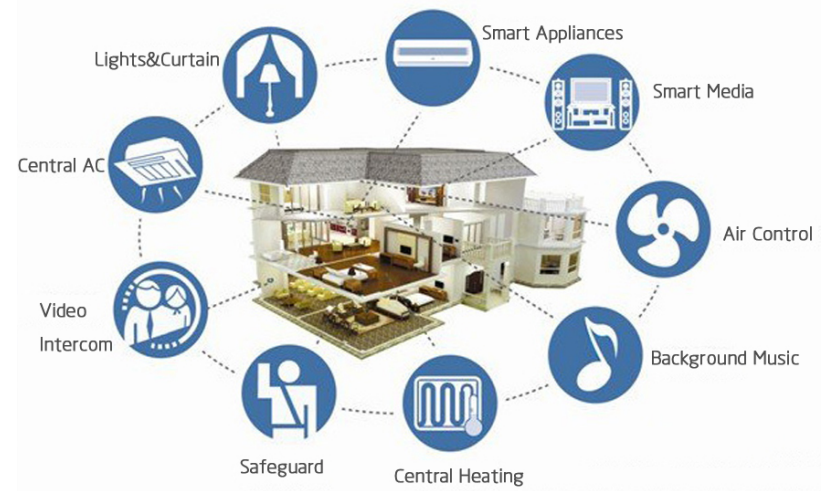


Two grand challenges for IoT

➤ Massive connectivity



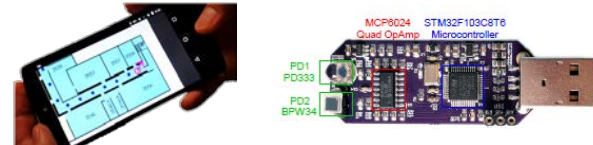
➤ Ambient awareness



Designing intelligent Internet of Things

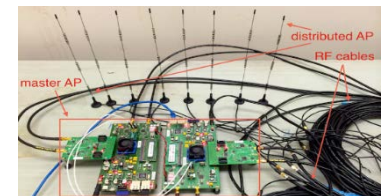
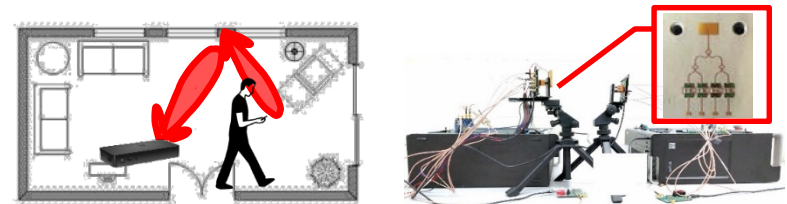
➤ Intelligence

Reusing wireless IoT devices to sense “where we are” and “what we are doing”



➤ Connectivity

New network architectures/ protocols that address the IoT traffic explosion

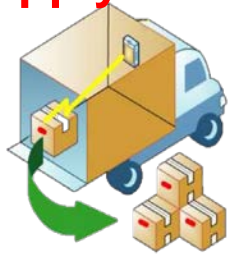


IoT: Intelligence

Tagyro: Sensing orientation of batteryless objects

➤ Applications in the IoT space

Supply chain



Smart homes



Product line

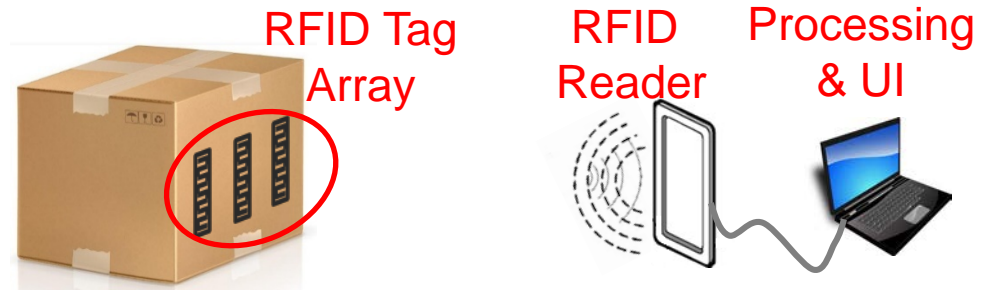


“Internet of Toys”



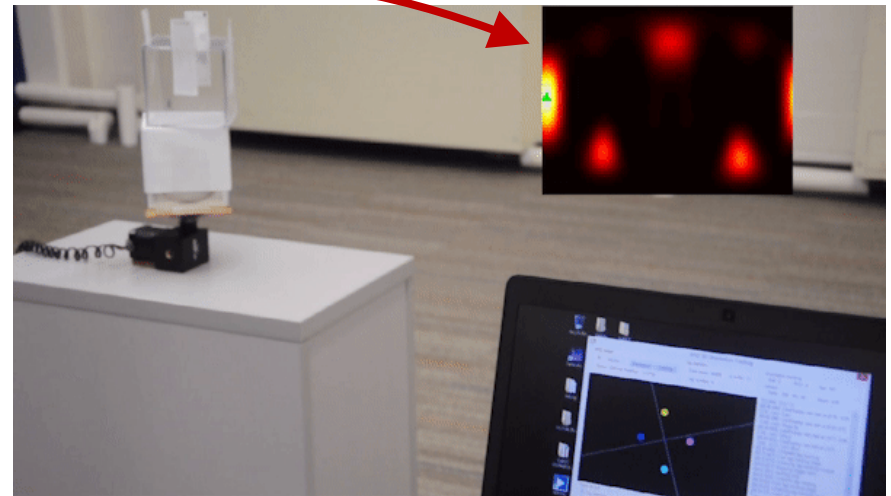
Tagyro: Sensing orientation of batteryless objects

- Orientation sensing system setup

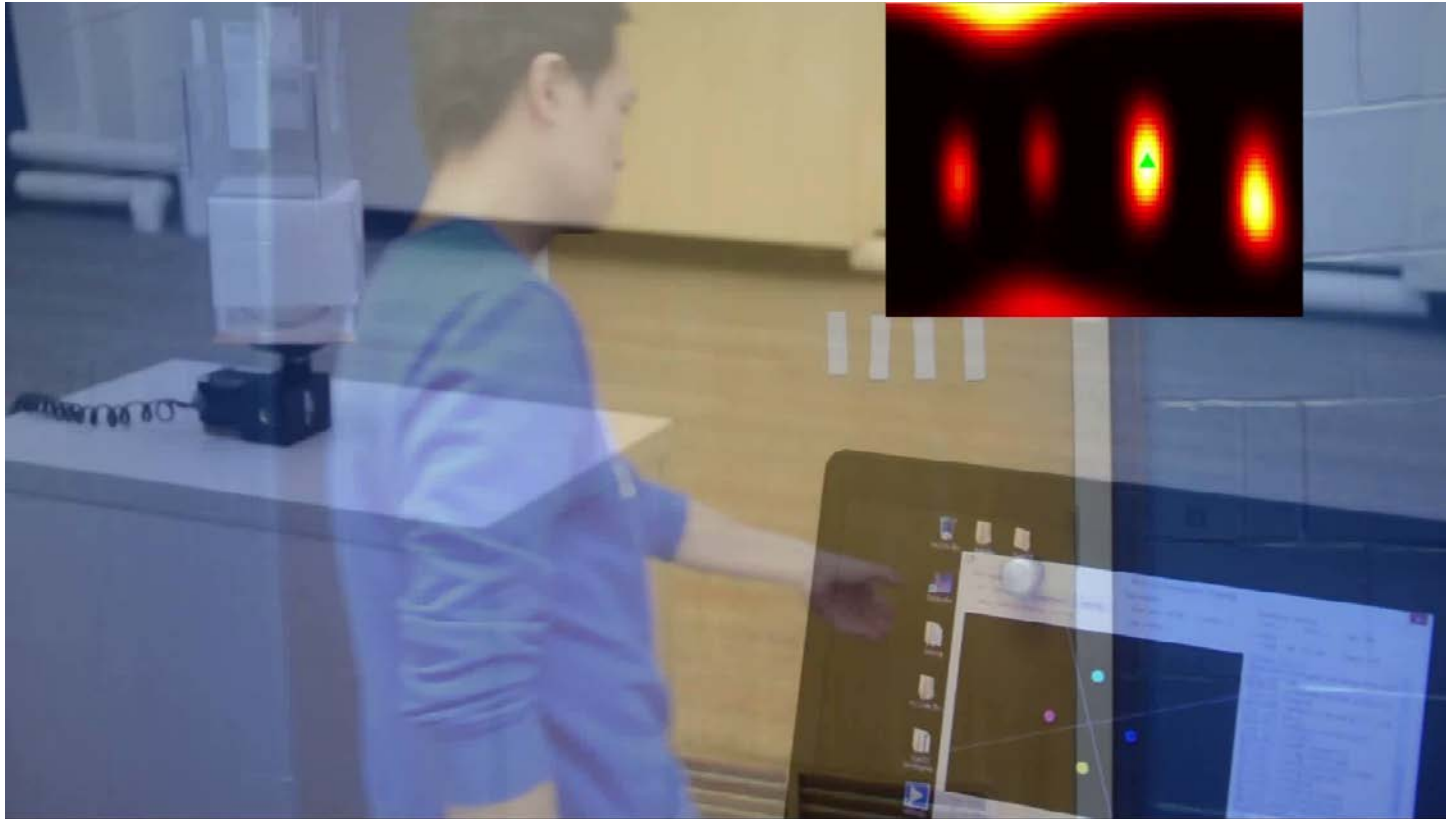


- A computational model for phase-orientation, at 2° precision and 30 ms latency!

* “Gyro In the Air: Tracking 3D Orientation of Batteryless Internet of Things”,
Teng Wei, Xinyu Zhang, [ACM MobiCom’16](#)

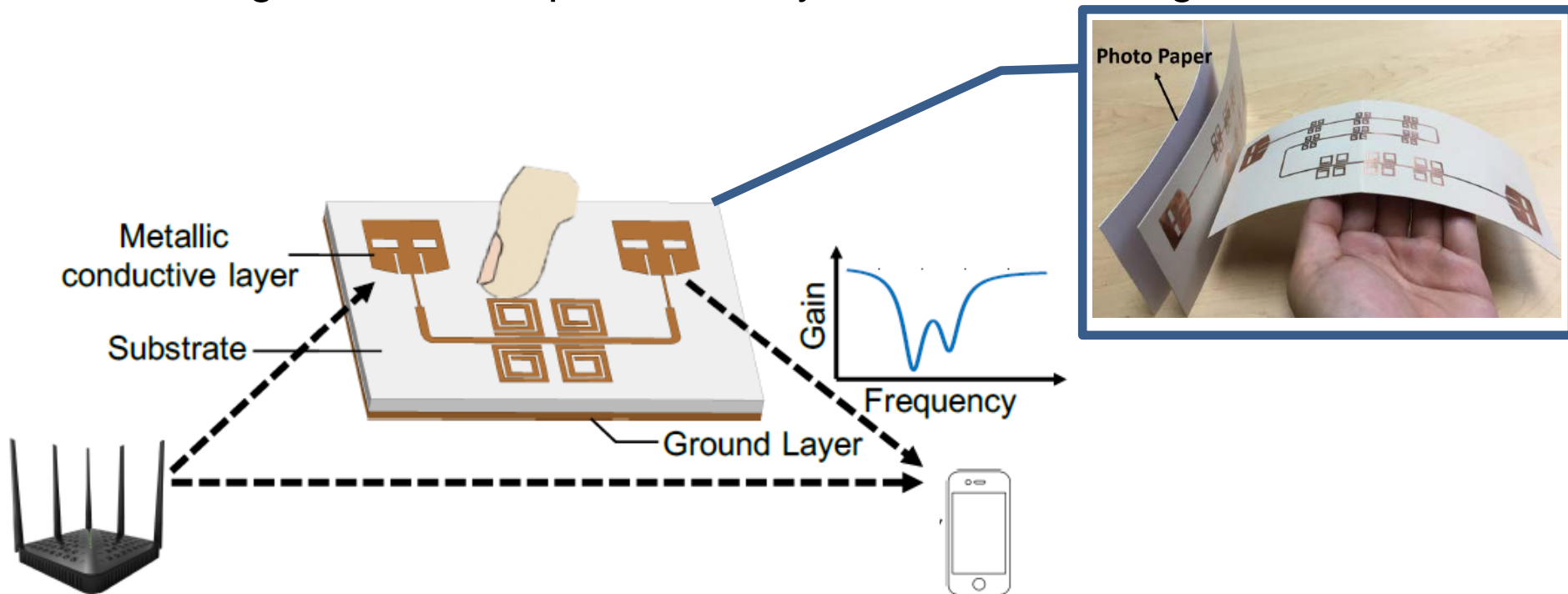


Tagyro for smart homes



Sensing touch on batteryless objects

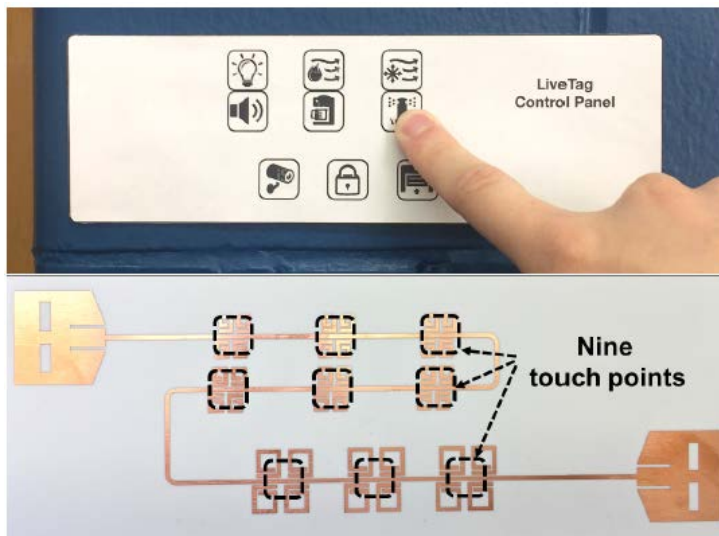
- LiveTag: wireless, chipless, batteryless touch sensing



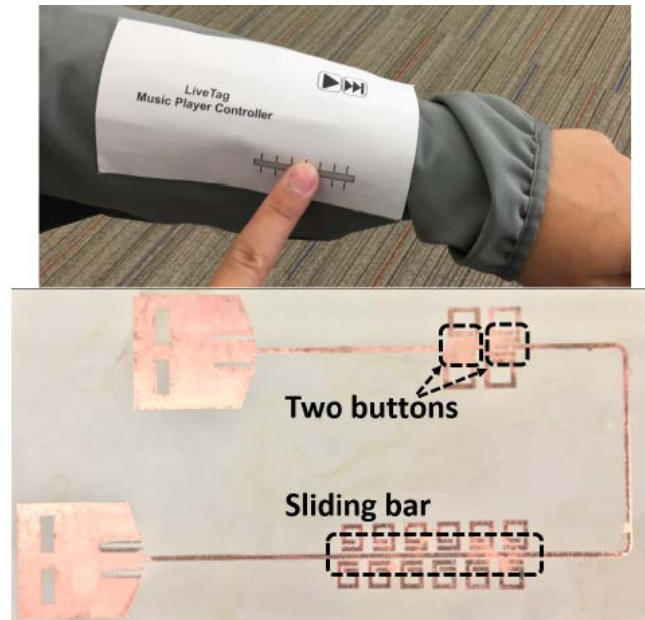
Sensing touch on batteryless objects

➤ LiveTag: use cases

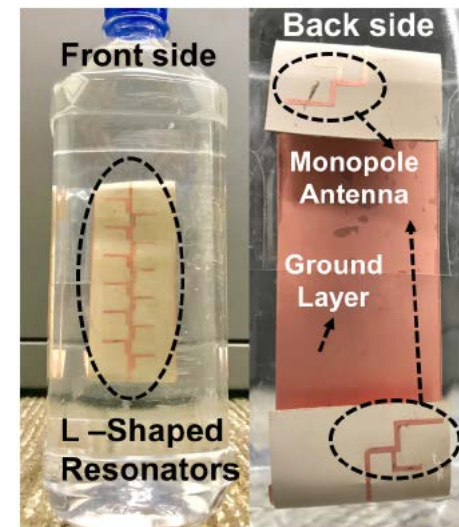
In smart homes



On smart textile

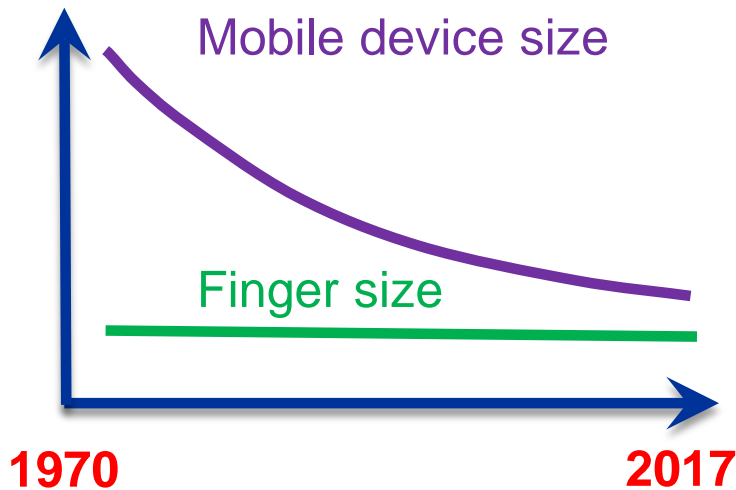


Dehydration sensing



Sensing interaction with small mobile devices

- How to overcome the touchscreen bottleneck?

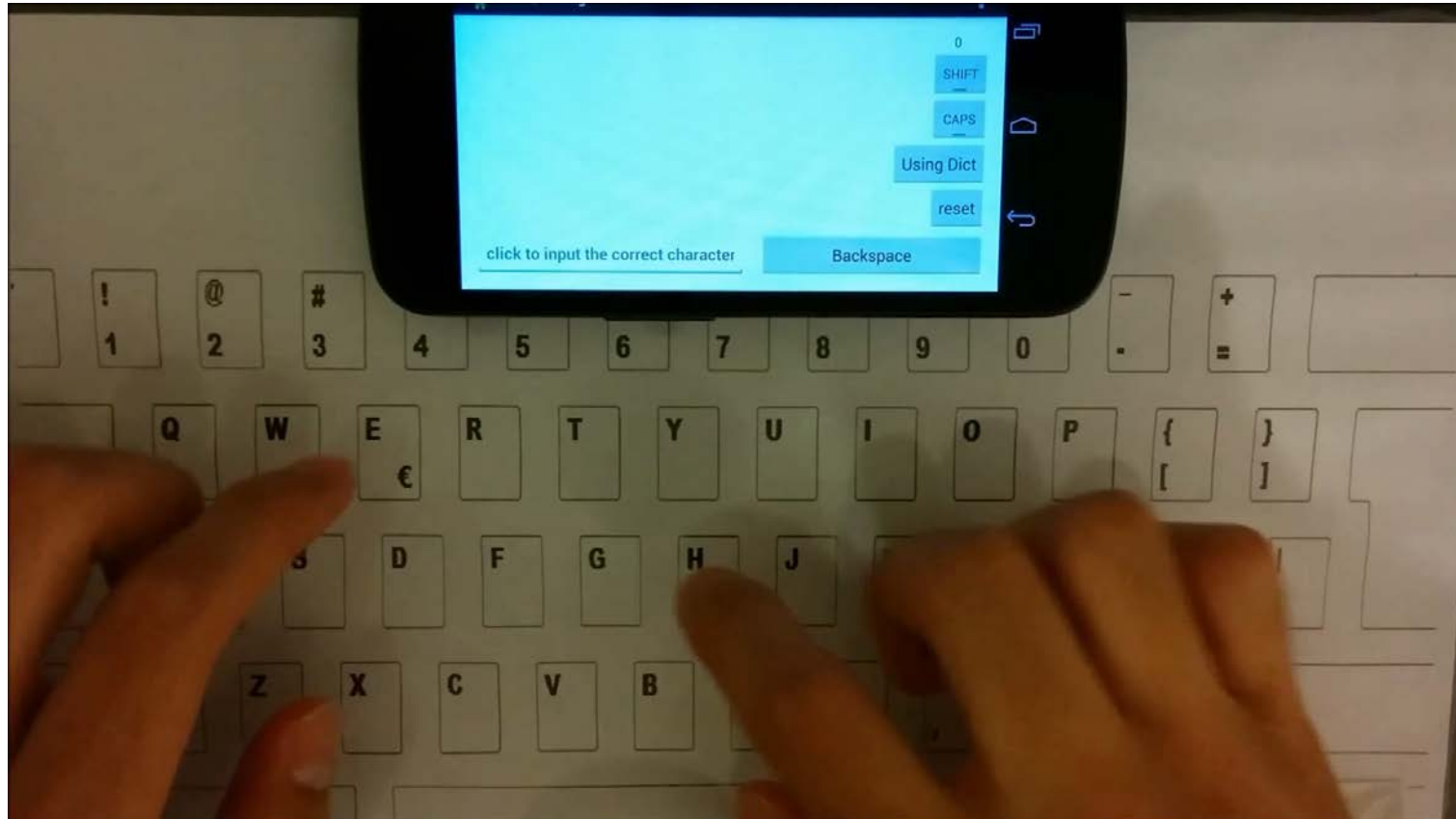


- How to interact with future IoT devices?



* “Ubiquitous Keyboard for Small Mobile Devices: Harnessing Multipath Fading for Fine-Grained Keystroke Localization”,

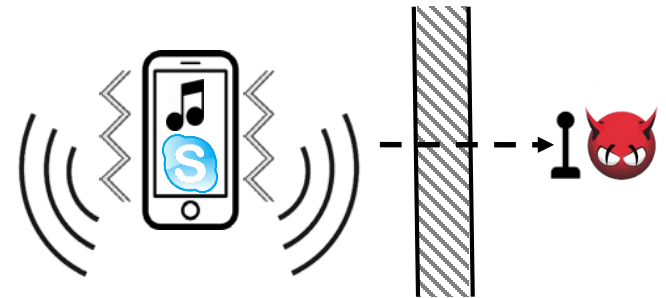
Junjue Wang, Kaichen Zhao, Xinyu Zhang, Chunyi Peng, [ACM MobiSys'14](#)



Security implications of intelligent IoT

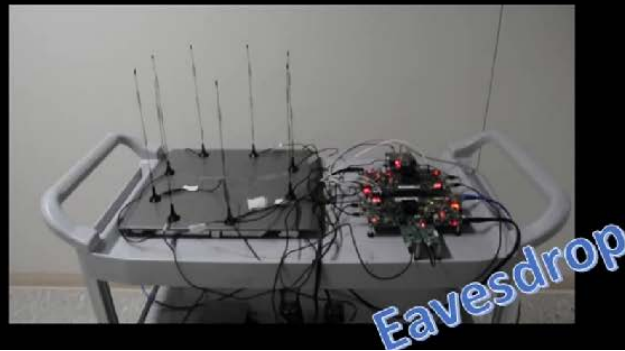
- Wireless “things” may become privacy leakers that cannot be fixed by digital encryption

Example: transform a WiFi receiver into a through-wall microphone



* “Acoustic Eavesdropping Through Wireless Vibrometry”, Teng Wei, Shu Wang, Anfu Zhou, Xinyu Zhang, [ACM MobiCom’15](#)

Security implications of intelligent IoT



Security implications of intelligent IoT



Inside



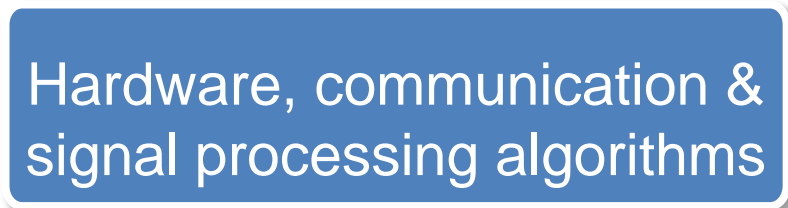
Outside



Eavesdrop

IoT: Connectivity

IoT: the connectivity challenge



TCP, UDP ...
Scheduling...

802.11n/ac
4G LTE,
5G

~1Mbps effective rate

Examples:

- * 4G LTE: 2s-9s to download 1MB web
- * 3G to 4G: 10x capacity gain, only 20% video quality improvement;

10+Mbps effective rate

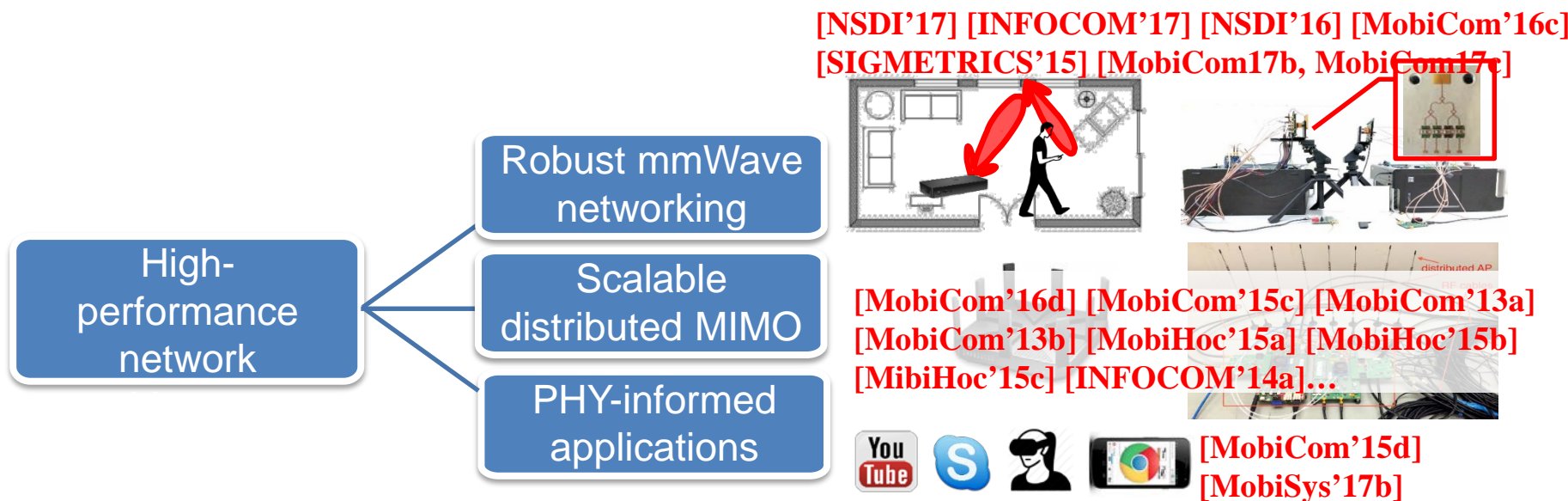
Examples:

- * mmWave networks under mobility/blockage;
- * MIMO networks under interference/computing constraints

100+Mbps effective rate

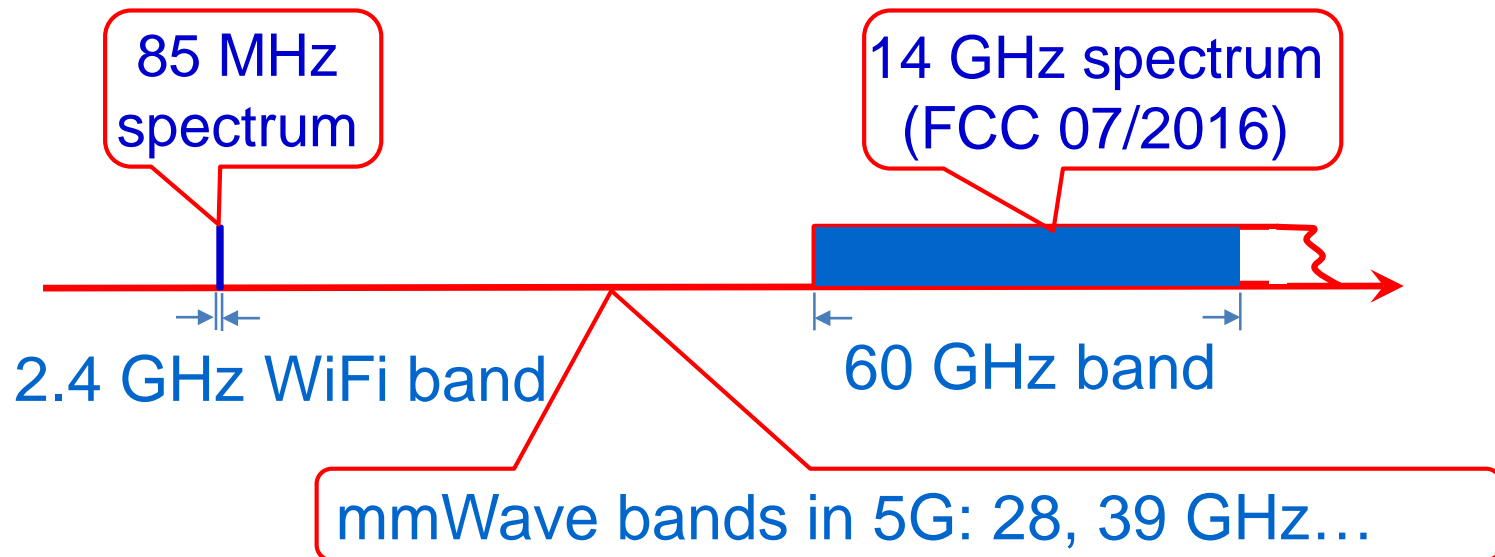
IoT massive connectivity: Solution

- **Goal:** Design network architectures to connect the IoT wireless devices with wire-speed, low-power, and high scalability
- **Approach:** **Physical-layer informed network architectures** to bridge the performance gaps across layers



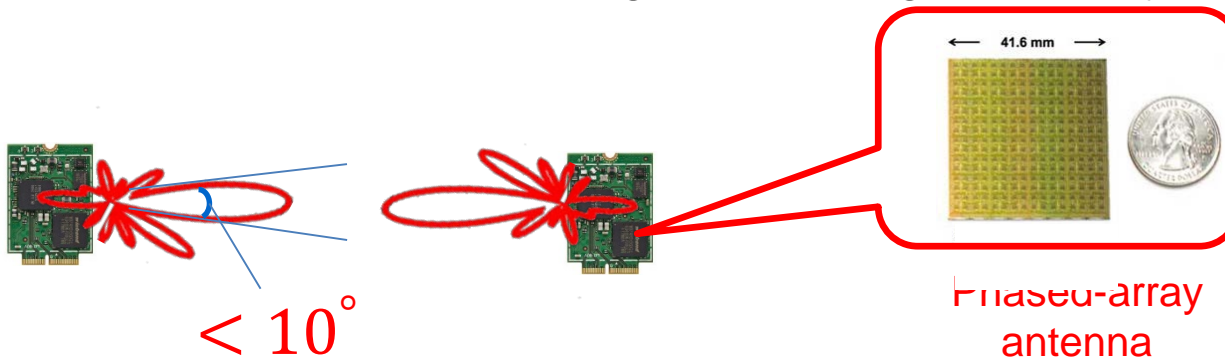
Millimeter-wave (mmWave): hallmark of 5G networks

- mmWave eliminates the spectrum crunch



Basic characteristics of mmWave links

- Shorter wavelengths, higher attenuation
- Use highly directional, electronically steerable phased-arrays to overcome propagation loss
 - Introduces new challenges: blockage, mobility



Basic characteristics of mmWave links

➤ Mobility



Tx and Rx beams
must keep
aligned

➤ Blockage



Needs environment
reflection to overcome
blockage

mmWave links: short-range, point-to-point use cases

Cordless computing



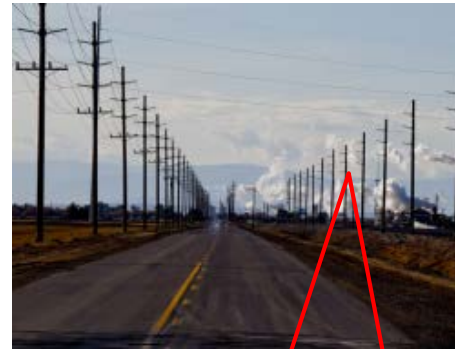
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Wireless backhaul

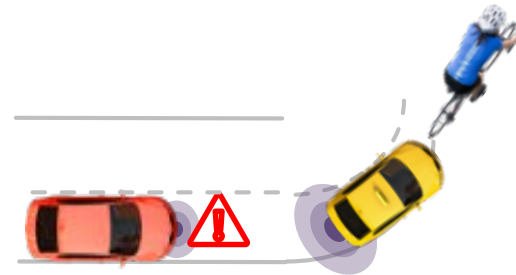


More demanding use cases for mmWave

Instant file sync



V2X/V2V context sharing



UHD virtual reality



3D video surveillance



Enabling seamless coverage and mobility for 5G mmWave networks

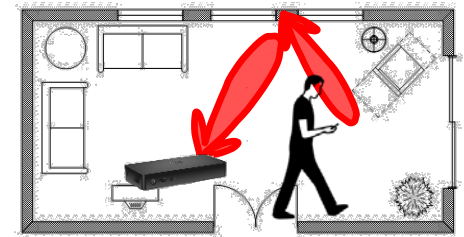
➤ Efficient recovery of mmWave links under blockage

* “Facilitating Robust 60 GHz Network Deployment by Sensing Ambient Reflectors”,
Teng Wei, Anfu Zhou, Xinyu Zhang, [USENIX NSDI'17](#)



➤ Enabling robust mmWave network deployment by imaging ambient reflectors

* “BeamSpy: Enabling Robust 60 GHz Links Under Blockage”,
Sanjib Sur, Xinyu Zhang, Parameswaran Ramanathan, Ranveer Chandra,
[USENIX NSDI'16](#)

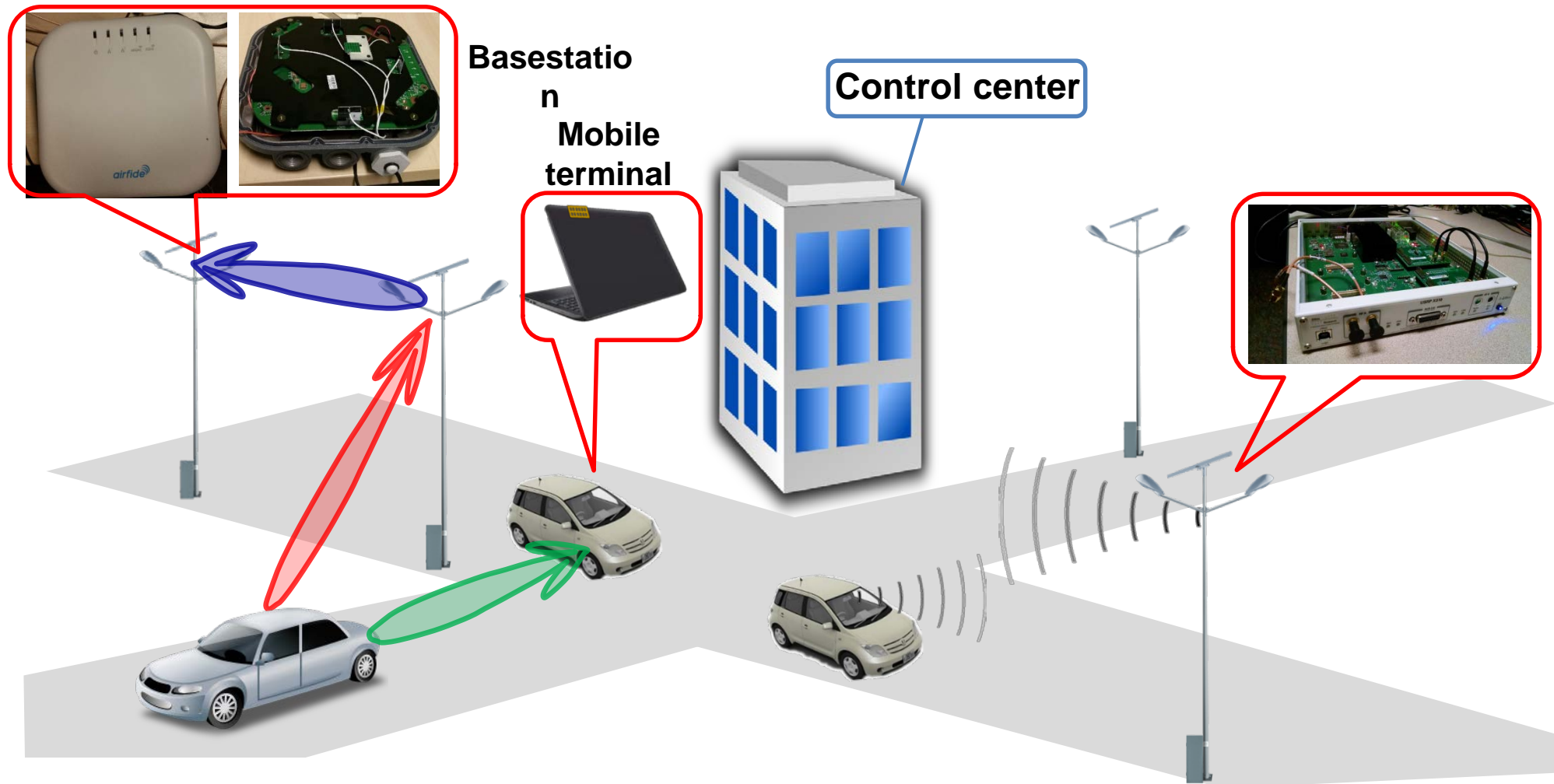


➤ Enabling robust mmWave mobile networks

* “Pose Information Assisted 60 GHz Networks: Towards Seamless Coverage and Mobility Support”,
Teng Wei, Xinyu Zhang, [ACM MobiCom'17](#)



Ongoing project: large-scale experiments on a campus-wide 5G V2X testbed



Summary

- Two grand challenges facing intelligent IoT
 - Intelligence
 - Connectivity
- Intelligence
 - We can repurpose wireless IoT devices as sensors, to sense our interaction with the physical environment
- Connectivity
 - We can realize wire-speed connectivity through directional, laser-like radio beams
- An experiment-driven approach to address IoT challenges!

Thank you!

<http://xyzhang.ucsd.edu>

CAP BUSINESS



William W. Dyer

Director, Corporate Affiliates Program, Jacobs School of Engineering

CAP Business

Jacobs School Corporate Affiliates Program



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Rocio de Lis
Assistant Director,
CAP Talent Programs

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- Leads all CAP Talent Programming
- Develops recruiting strategies with CAP Partners
- Manages Team Internship Program (TIP)
- Advertises jobs/internships, screens resumes, targets specific students

- ✓ Internships
- ✓ Full Time Hires
- ✓ B.S., M.S. & Ph.D

Time to Submit your TIP Project!

TEAM INTERNSHIP PROGRAM 2019



WHAT

Project-based paid internship, 2-5 pre-screened students

WHEN

Recruitment starts NOW - Interns start Summer 2019

HOW

Email us to gather talent requirements and project goals

Together, Industry and Education Drive Innovation

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Assistant Director, Corporate Affiliates Program
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- Energy-efficient microelectronics for wearable sensors & body-area networks
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- Assessing human stress and performance using wearables and "unawearables"

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NOVEMBER 8

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- Hear presentations from clinicians, industry and academic technologists
- Discuss upcoming challenges and map collaborations
- Meet world-class leaders in healthcare robotics

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CENI 2018 - Tomorrow's Ai Today

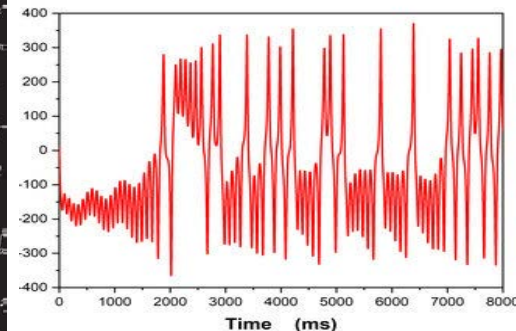
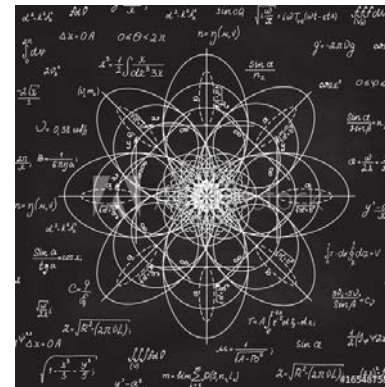
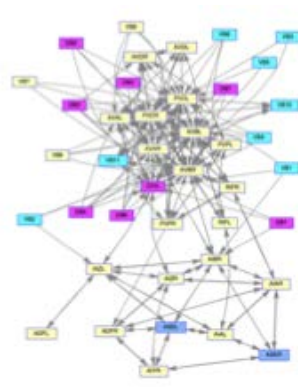
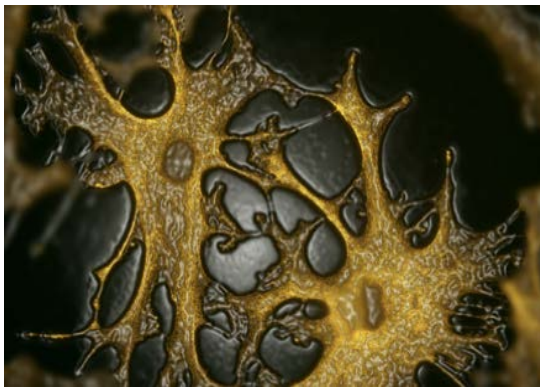
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Oct 15: Vinko Erceg - Fellow at Broadcom

Oct 22: Ronny Hadani - CTO at Cohere Technologies

Oct 29: Frank Van Diggelen - Principal Engineer at Google

Nov 5: Steffen Hellmold - VP of Corporate Strategy at Western Digital

Nov 19: John Smee - VP of Engineering at Qualcomm

Nov 26: John Cioffi - Professor at Stanford University and CEO of ASSIA

Dec 3: Vasu Parthasarathy - Technical Director at Broadcom

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Engineering Leadership

Engineering Leadership Forum with Mr. Bernard Gordon

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OCT. 19

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Calit2 Auditorium | October 19, 2018 | 11 a.m. - 12 p.m.

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October 20, 11:30a-2:00p



- Over 120 Student Projects in various fields, from Robotics and Machine Learning to Health & Psychiatry
- Hands-on ECE curriculum showcase
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ece.ucsd.edu/alumni/homecoming-weekend

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October 19, 2018	Gordon Center Engineering Leadership Forum with Bernard Gordon
October 20, 2018	Electrical & Computer Engineering Homecoming Day
October 25-26, 2018	Center for Networked Systems (CNS) Research Review
October 29, 2018	Professional Evening with Industry – diversity recruitment
November 7, 2018	Center for Wearable Sensors (CWS) Research Summit
November 8, 2018	Contextual Robotics Institute Forum
November 14, 2018	Center for Wireless Communications (CWC) Research Review
December 4, 2018	Center for Engineered Natural Intelligence (CENI) Research Summit
January 17, 2019	Disciplines in Engineering Career Fair (DECaF)
February 7, 2019	Winter CAP Executive Board Meeting
April 18, 2019	Jacobs School Research Expo

Thank You CAP Executive Board!

Next Board Meeting: February 7, 2019